

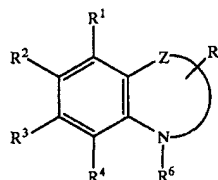


US006063806A

United States Patent [19]**Kamiya et al.**[11] **Patent Number:** **6,063,806**[45] **Date of Patent:** **May 16, 2000**[54] **INDOLYL OR INDOLINYL DERIVATIVES
AND MEDICINAL USE THEREOF AS ACAT
OR LIPID PEROXIDATION INHIBITORS**8-92210 4/1996 Japan .
8-208602 8/1996 Japan .
96/09287 3/1996 WIPO .**OTHER PUBLICATIONS**[75] **Inventors:** **Shoji Kamiya**, Kyoto; **Hiroaki Shirahase**, Nagaokakyo; **Hiroshi Matsui**, Nara; **Shohei Nakamura**, Kyoto; **Katsuo Wada**, Takatsuki, all of Japan"Potential Antiatherosclerotic Agents. 5.¹ An acyl-CoA:C-
holsterol O-Acyltransferase Inhibitor with Hypocholester-
olemic Activity", J. Med. Chem. vol. 29, pp. 1131-1133.
1986.[73] **Assignee:** **Kyoto Pharmaceutical Industries,
Ltd., Japan**K. Yee et al., "Novel Series of Selective Leukotriene
Antagonists: Exploration and Timization of the Acidic
Region in 1,6-Disubstituted Indoles and Indazoles", Journal
of Medicinal Chemistry, vol. 33, No. 9, pp. 2437-2451,
1990.[21] **Appl. No.:** **09/051,202**V. Matassa et al., "Evolution of a Series of Peptidoleukot-
riene Antagonists: Synthesis and Structure/Activity Rela-
tionships of 1,3, 5-substituted Indoles and Indazoles", Jour-
nal of Medicinal Chemistry, vol. 33, No. 6, pp. 1781-1790,
1990.[22] **PCT Filed:** **Sep. 30, 1996**[86] **PCT No.:** **PCT/JP96/02852**§ 371 Date: **Apr. 3, 1998**§ 102(e) Date: **Apr. 3, 1998**[87] **PCT Pub. No.:** **WO97/12860****PCT Pub. Date:** **Apr. 10, 1997**F. Brown et al., "Evolution of a Series of Peptidoleukotriene
Antagonists: Synthesis and Structure-Activity Relation-
ships of 1,6-Disubstituted Indoles and Indazoles", Journal
of Medicinal Chemistry, vol. 33, No. 6, pp. 1771-1781,
1990.[30] **Foreign Application Priority Data**Oct. 5, 1995 [JP] Japan 7-259082
Mar. 14, 1996 [JP] Japan 8-058018
Jul. 24, 1996 [JP] Japan 8-194331*Primary Examiner*—Mukund J. Shah*Assistant Examiner*—Deepak R. Rao*Attorney, Agent, or Firm*—Wenderoth, Lind & Ponack,
L.L.P.[51] **Int. Cl.⁷** **C07D 209/08; C07D 209/12;
C07D 209/14; C07D 209/18; A61K 31/40**[52] **U.S. Cl.** **514/418; 514/419; 548/490;
548/491; 548/483; 548/484; 548/510**[58] **Field of Search** **548/483, 484,
548/490, 491, 510; 514/418, 419**[57] **ABSTRACT**

A heterocyclic derivative of the formula (I)

(I)



wherein each symbol is as defined in the specification, and pharmaceutically acceptable salts thereof. The compound (I) of the present invention and pharmaceutically acceptable salts thereof exhibit superior ACAT inhibitory activity and lipoperoxidation inhibitory activity in mammals, and are useful as ACAT inhibitors and lipoperoxidation inhibitors. Specifically, they are useful for the prophylaxis and treatment of arteriosclerosis, hyperlipemia, arteriosclerosis in diabetes, and cerebrovascular and cardiovascular ischemic diseases.

19 Claims, No Drawings[56] **References Cited****U.S. PATENT DOCUMENTS**4,803,218 2/1989 Stanley et al. 514/414
5,153,226 10/1992 Chucholowski et al. 514/617
5,219,859 6/1993 Festal et al. 514/269**FOREIGN PATENT DOCUMENTS**0 622 356 A1 11/1994 European Pat. Off. .
622356 11/1994 European Pat. Off. .
0 708 091 A1 4/1996 European Pat. Off. .
0 793 140 A1 9/1997 European Pat. Off. .
2-117651 5/1990 Japan .
3-7259 1/1991 Japan .
3-148247 6/1991 Japan .
4-66568 3/1992 Japan .
4-234839 8/1992 Japan .
4-327564 11/1992 Japan .
5-32666 2/1993 Japan .
5-97802 4/1993 Japan .
5-140102 6/1993 Japan .